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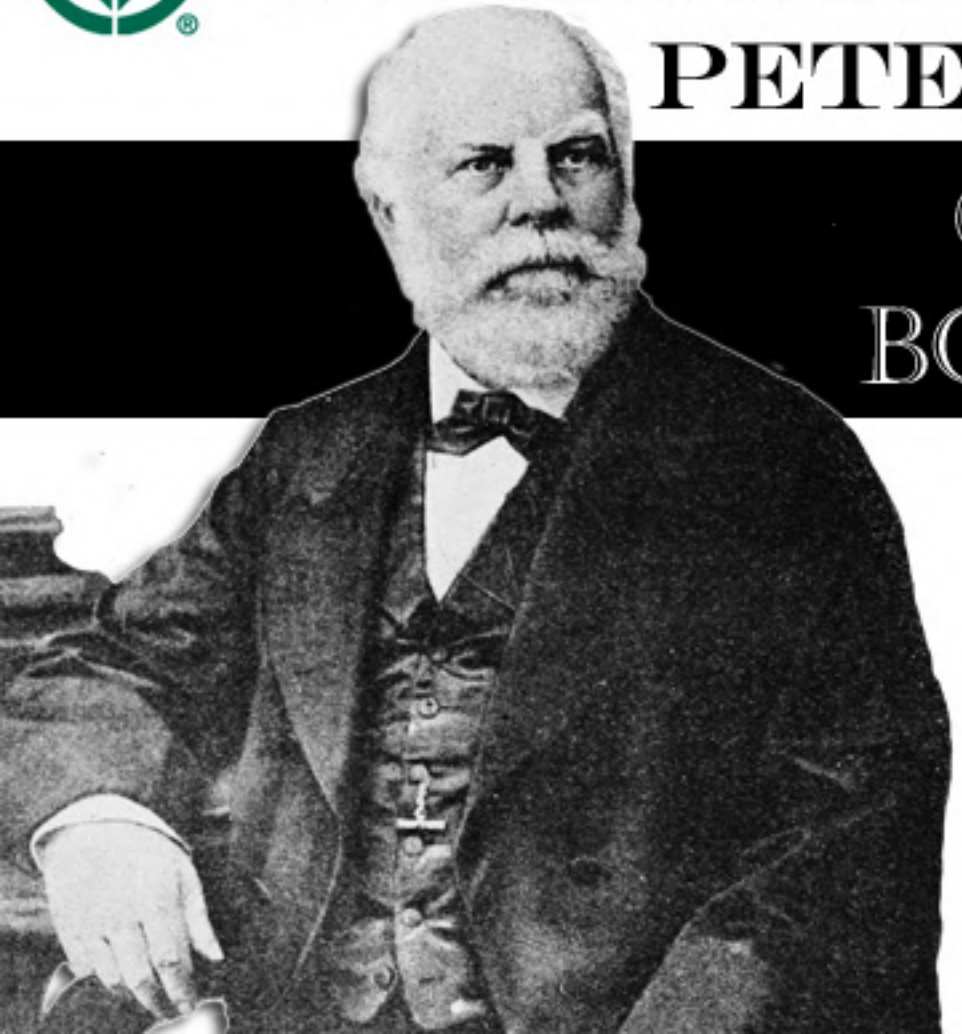

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Ho Rio Sept 1869

Rhipsalis,

in arboribus pendula, Prov. San Paulo, Bras.

Burchell No 3691

"trichotomus in ramis junioribus, in secundis dichotomus; bacca globosa albida purpurascentes non diaphana (quod in Rh. Cassuta!) diam. 2. lines"

2331

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Isisocactus

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H. Martius Aug 1869

368 ("Rhipsalis Cassyta, ∈ "forma robustior, articulis elongatis, floribus sublaterali-bus" Engl. 1857) G. A. Lindberg, Sept 1854. Minas Geraës, in silvis floribus lateralibus, stem stouter than in the ordinary form — allied to it — or to funalis?

1479 Wullschlaegel, 14 arbori — pendula — very slender, with very small flowers, named 1857 by me Rh. parviflora ≡ H. Martii — Surinam, Paramaibo — branches verticillate, or other many (3—8) from near the ends of the older ones

364 Rhipsalis San Paolo Brasil in rupibus — G. A. Lindberg. Apr. 1854 — flowers extremely small — perhaps same as No. 366. by the same collector — (see last page) — 3—5 bracklets from end of branches.

367 coll by same in Nov 1854, Minas Geraës, Bras. is similar, but still more slender, branches bracklets divided — Ovarium in right angles so fl or fr.

1478 Rh. rhombeoidea? Wullschlaegel Paramaibo, Surinam — "in arboribus; fl. parvi albi" no fl. on specimen

2332

611 Rhipsalis Minas Geraës in truncis arborum, G. A. Lindberg Oct 1854 joint like Disocactus — 25—35 cent long 1½—2½ wide — flat. — Same among fellows

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Fort Dyck Jan. 1857

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Rhipsalis Cassyta is now covered with white berries — it is terete

Rh. ramulosa, unripe fruit, it is narrowly winged

Rh. rhombea, Swartziana, corpsta are broad winged, yellow or yellowish flowers now open

Rh. pachyptera is stouter, else similar, now in bloom

Rh. pentaptera very curious arrangement.

Rh. micrantha similar, 5 angled. but much more slender

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Caucac Hort. Venet.

Jan 1858.

Physalis fundlis is more pendulous;
Ph. floccosa is similar, but more
erect; both thick. —

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Rhipsalis

Frankfurt Febr. 1857

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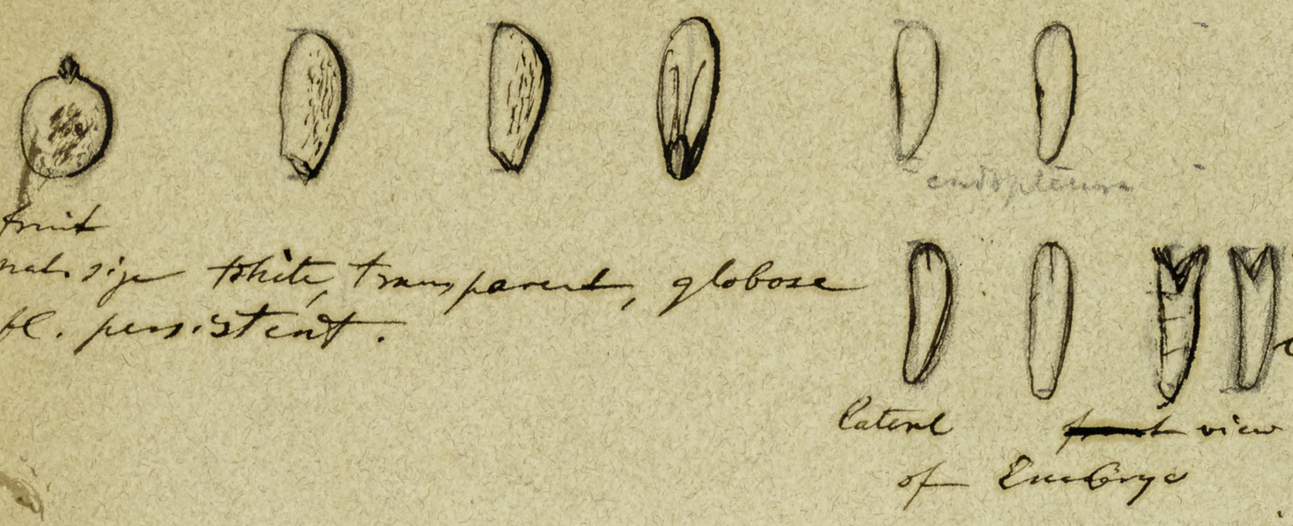

fruit
nut. size white, transparent, globose
fl. persistent.

Rhipsalis Cassyta Hort Dyck

seed 0.6 lin long, subterete, linear rounded on back, subarcuate in front, hilum sub basal, oblong linear; testa brittle, dark chestnut brown shining, finely striolate
Embryo ~~subterete~~ straight terete, (rectus) subclavate; albumen none, indicated by a slightly thickened brownish membrane
cotyledons foliaceous, erect, contrarious parallel acutish, abot ¼ th length of the whole embryo. —

Rh. ramulosa Hort Dyck

seed 0.6 lin long, obovate, compressed not keeled; hilum sub basal, oblong linear; testa chestnut brown, shining brittle, very slightly verruculose;

fruit white transparent, globose,
fl. persistent.

Rh. crispata (Hort Jacobi)

seed 0.45–0.5 obliquely obovate, compressed; chestnut brown, shining almost smooth; hilum, obliquely basilar linear-oblong; seed carinate anteriorily.
Embryo 0.4 compressed, erect. albumen obovate compressed, cotyledons contrarious, short erect, about ¼ of the whole Embryo, laterally compressed.

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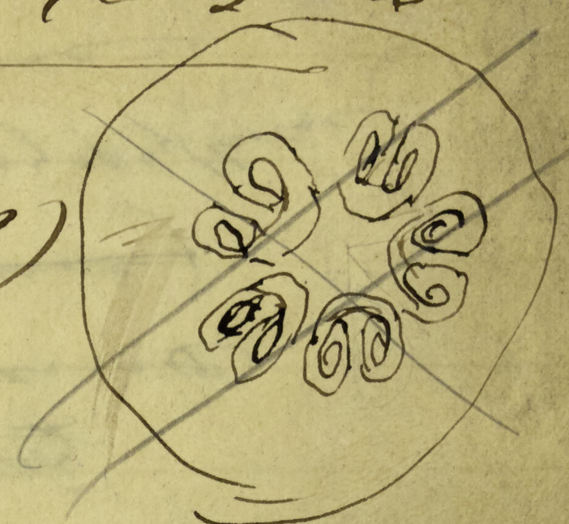
Phipsalis Jan 1860

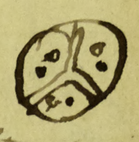
fruit or rather ovary with as many cells as style has lobes ! No!

Gärtn. fruct t. 136 tab 28 (1788) says that the fruit has the seeds attached to a central axis



Hooker (ubi?) fide DC. Rev. p. 78 repeats this — DC. Prod. III. p. 475 repeats it.

DC. Rev. (1829) p. 79 (see also p. 18) for the first time states that the figure of the Flor. Mex. and. by Moçiño & Sessé, figures the fruit as tricoccular and he copies the figure pl. 21. — but is doubtful whether there are 3 or a single cell, — but adheres to the opinion of the central attachment of the seeds



7 years later Dr Salm. — Otto Gard Zeitg 1836 p. 146 and Pfeiffer ibid. p. 185 protend, after careful examination that the fruit of Phipsalis is identical with the fruit of all other Cactaceae

Both Gärtner and the Mexican Flora are right to some extent

the ~~fruit~~ ovary has as many cells as the style has lobes! with a thick fleshy axis

But the ovula are not attached to the axis but to the ~~lateral~~ parietal placenta which reaches like an incomplete dissepiment into ~~the~~ cell, dividing it almost completely into 2 halfs

The ovula hang from the inner edge of the placenta, which is perfectly free from the axis, into the semicells their base being attached (the reverse of other Cacti with short funiculi) directed to the ~~cell~~ ovary of the fruit, then ~~micropyle~~ to the centre

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flowers often larger than the plant itself; these forms extend ~~toward~~ into New Mexico and into the northern provinces of Mexico but appear to be unknown farther south, — where the species of the family are most numerously developed. —

Other species of this peculiarly American family have not been found in Texas. J.

E. There are some other plants of different families characteristic of that flora — so the Rutosma Texanum (A. G. Mss) which with Pegamum Mexicum found south of the Rio Grande are the only ~~American~~ Mexican representatives of the Rue family in America. — So also the remarkable Hermannia Texana, those congeners are so common ~~also~~ south of Africa; Tagetes.

A. As we may expect the flora of southwestern Texas partakes to some extent of the characters of the vegetation of the adjoining districts. — ~~Thus~~ We find there the Oenothera and Gaura of the Buffalo grass and many other of the northern ~~western~~ Plains & the western mountain region C. sends down to the calcareous plateaus the well known compass plant, Silphium laciniatum is also a number of grasses & some Polygalaceae, Nyctaginaceae, etc. see page 10. B.

~~a goodly number of Tableland~~

From ~~that~~ the ~~Plateau~~ of Mexico and particularly its northern slopes ~~many~~ we find in our flora the Bolivarias (~~some of the different species to be sure~~) ~~the~~ some Malpighiaceae, some Zygophyllaceae besides the Mimoseae & Cactaceae ~~already~~ to be mentioned hereafter; ~~Mostly~~ genera or families not found farther North and east. D.

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Rhipsalis 2 Jan 1860 No. 2

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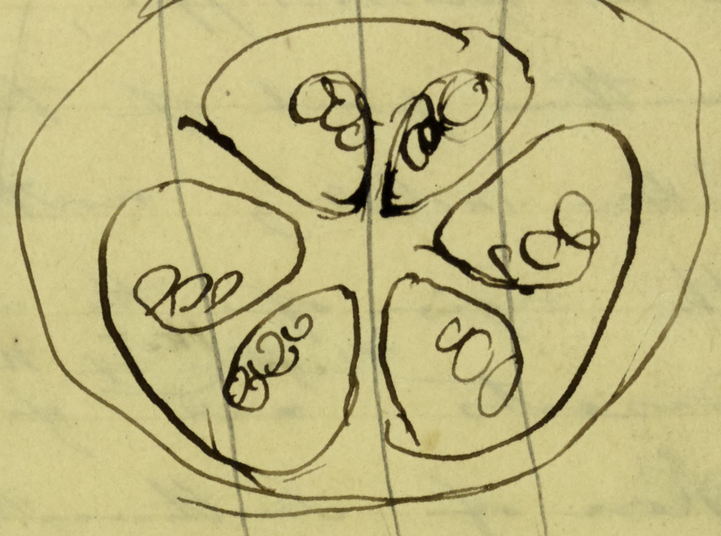
There is some resemblance to the Cucurbita fruit, but in this the placentae are curled spirally, forming part of the dissepiment themselves & thus: and also the central axis



In Rhipsalis it would seem that the central axis & the dissepiment is formed by the protruding and centrally uniting midrib of the carpel.

These investigations were made Jan 19th on Rh. pachyptera

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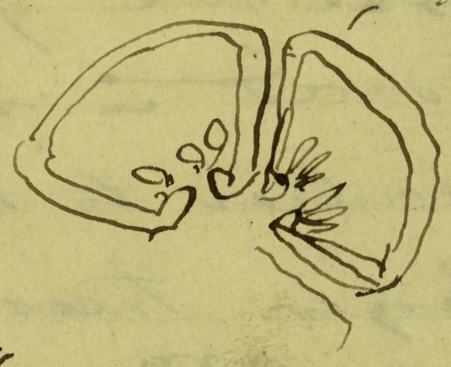
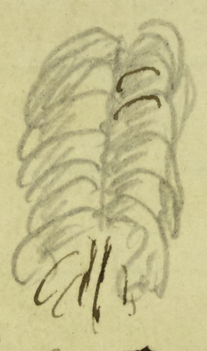
Turpin Obs. sur la fam. des Cactées (1830) says pag. 62 that the ovary of Rhipsalis is 3-locular, the ovules attached to the internal angles of the cells pl. 3 fig 5 he figures the ovary thus:



Pfeiffer Enum. 1837. says pag: 136: "Delineatio horae in Turpini obs. omnino falsa".

Salm Dyck. 1850. p. 230: in generibus omnibus Cact. semina parietalia (in relation to Rhipsalis

Jan 25. A new examination of the fruit shows that I was mistaken! There are certainly the placentae protruding into the centre of the ovarian cavity with recurved ovules, pretty nearly as Turpin has it — thus forming an incompletely 3-5-locular ovary — but no other dissepiments are there — The fruit ovary is therefore thus near the Pepo fruit, but placentae not curled up as in that fruit:



placenta & ovules seen from the inside — centre of ovary

so different from that of Texas in the same latitude; thus the western slope of the Alleghanies towards the immediate valley of the Mississippi, the northern and the southern part of that valley itself, the latter including northeastern Texas; then again the region of the western plains and deserts and finally the ~~peculiar~~ that of the Rocky mountains flora of Southwestern Texas or ~~the flora of~~ of the Rio Grande valley. F see next page

~~7.~~ The peculiar striking character of the vegetation of this region consists in the diminution of trees into shrubs; they do not disappear entirely as in the western plains and deserts which extend into northeastern Texas, nor are generally the same species which elsewhere grow up to be large trees, ~~generally~~ reduced in size, but shrubby species peculiar to this region represent the larger trees of the same or analogous genera ~~genex~~ of ~~other regions~~ the more northern parts of the country. page 5 & 6

The stately Walnuts of your forests are reduced there to the low *Juglans nana*, which bears ~~fruit~~ nuts of the size of a musketball. In place of the Mulberry of your river bottoms, ~~appears~~ we find there ~~at~~ a shrub, with leaves of ¼th size the *Morus parvifolia*. The fine Hackberry, *Celtis occidentalis*, one of the ~~most important and~~ largest trees of the fertile lands of our western woods ~~country~~ is there represented by a ~~nearly~~ ~~analogous allied~~ spiny shrub of a nearly allied genus which not being able to find a description of any work at my disposal I have assumed to named *Acanthoceltis*

2338

Gaertn. de fruct.
I p. 137

Rhipsalis . . .

. . . . Bacca infera
unilocularis pellucida; semina
duodena centralia

Bacca infera, floris
rudimento coronata, sphaerica
nivea pellucida unilocularis,
Pulpa aqueosa, seminibus undique
circumfusa

Recep. nullum, praeter vasa nutritia
semina ad axem fructus alligantia.

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